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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/072,575	02/08/2002	Pang-Chia Lu	2002B004	1933
23455	7590	04/09/2004	EXAMINER	
EXXONMOBIL CHEMICAL COMPANY			KRUER, KEVIN R	
P O BOX 2149			ART UNIT	PAPER NUMBER
BAYTOWN, TX 77522-2149			1773	

DATE MAILED: 04/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center"><b>Office Action Summary</b></p>	<b>Application No.</b> 10/072,575	<b>Applicant(s)</b> LU, PANG-CHIA	
	<b>Examiner</b> Kevin R Kruer	<b>Art Unit</b> 1773	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 February 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6,9-12,14 and 15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 9-12, and 14-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 6, 2004 has been entered.

### ***Claim Rejections - 35 USC § 103***

Note: herein "extrusion-grade" is understood to read on a composition that is capable of being extruded.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 3, 9, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB-2323327A (herein referred to as Davidson) in view of DE 26-17411 (herein referred to as Pfleger).

Davidson teaches a polyolefin film having a base layer of polypropylene-based resin layer (herein relied upon to read on the claimed "polyolefin" of the "core layer") and a heat seal layer (abstract). The polypropylene-based resin layer contains nucleating agents that are used to induce the formation of microvoids (see abstract and page 3, last paragraph-page 4, first paragraph). Typically, the nucleating agents comprise

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organic and inorganic materials with particle sizes of 1-10um (page 3, first full paragraph). The nucleating agents are herein relied upon to read on the claimed "microspheres" of claim 14. Suitable heat seal compositions include acrylic copolymers or olefins extended with unsaturated carboxylic acids (page 4, first paragraph). The polyolefin film is produced by co-extruding the base layer and heat seal layer (page 5, first full paragraph). The film is then biaxially oriented (page 6, first full paragraph). The resulting film is opaque (page 3, first paragraph). With regard to claim 9, Davidson teaches that the surface of the polypropylene core opposite the heat seal layer may have a skin thereon (page 4, first paragraph).

Davidson teaches that the heat-seal layer may comprise an acrylic polymer but does not teach that the heat-seal layer should comprise the claimed terpolymer. However, Pfleger teaches a terpolymer adhesive that heat seals to a variety of substrates (page 3, fourth paragraph of the translation). The terpolymer comprises more than 60wt% ethylene, 1-10wt% acrylic acid and/or methacrylic acid, and 1-20wt% t-butyl acrylate and/or t-butyl methacrylate (page 3, fourth paragraph of the translation). The films have uniform melt flow and copolymer content (page 2, third paragraph of the translation) and form good quality films (page 4, third full paragraph of the translation) when extruded (see examples). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the terpolymer adhesive taught in Pfleger as the heat seal layer of the film taught in Davidson. The motivation for doing so would have been because said terpolymer is extrudable, forms high quality

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adhesive films with uniform melt flow and copolymer content, and is heat sealable to a variety of substrates.

4. Claims 1-3, 6, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shah (US 5,314,749) in view of DE 26-17411 (herein referred to as Pfleger).

Shah teaches a multi-layer film comprising an internal layer of high density polyethylene (herein understood to read on the claimed "polyolefin" of the "core layer"), outer layers of olefinic polymer or copolymer (herein relied upon to read on the claimed "second skin layer" of claims 9 and 10), and polymeric adhesives between the internal layer and outer layers (abstract). The outer layers preferably comprise either an ethylene/propylene copolymer or a polypropylene (col 3, lines 3+). The adhesive may comprise ethylene/acrylate copolymers (col 3, lines 63+). The multi-layer film is made by co-extruding the layers, quenching the film, and then biaxially orienting the film (col 4, lines 35-67).

Shah does not teach that the adhesive layers between the outer layers and internal layer may comprise the claimed terpolymer. However, Pfleger teaches a terpolymer adhesive that adheres to various substrates (page 3, fourth paragraph of the translation). The terpolymer comprises more than 60wt% ethylene, 1-10wt% acrylic acid and/or methacrylic acid, and 1-20wt% t-butyl acrylate and/or t-butyl methacrylate (page 3, fourth paragraph of the translation). The claimed films have uniform melt flow and copolymer content (page 2, third paragraph of the translation) and form good quality films (page 4, third full paragraph of the translation) when extruded (see

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examples). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the terpolymer adhesive taught in Pflieger as the adhesive layers of the film taught in Shah. The motivation for doing so would have been because said terpolymer is extrudable, forms high quality adhesive films with uniform melt flow and copolymer content, and is taught to be useful as an adhesive for various substrates.

5. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park (US 4,367,112) in view of DE 26-17411 (herein referred to as Pflieger).

Park teaches a polypropylene core layer having a heat sealable layer applied thereto (abstract). The heat sealable layer comprises ethylene methacrylate (col 2, lines 34+) and can be applied to the core layer after the core layer has already been oriented in the machine direction (col 3, lines 5+). The laminate is then oriented in the transverse direction. Alternatively, the layers can be co extruded and then biaxially oriented.

Park does not teach that the heat sealable layer may comprise the claimed terpolymer. However, Pflieger teaches a terpolymer adhesive that adheres to various substrates (page 3, fourth paragraph of the translation). The terpolymer comprises more than 60wt% ethylene, 1-10wt% acrylic acid and/or methacrylic acid, and 1-20wt% t-butyl acrylate and/or t-butyl methacrylate (page 3, fourth paragraph of the translation). The claimed films have uniform melt flow and copolymer content (page 2, third paragraph of the translation) and form good quality films (page 4, third full paragraph of the translation) when extruded (see examples). It would have been obvious to one of

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ordinary skill in the art at the time the invention was made to utilize the terpolymer adhesive taught in Pflieger as the heat sealable layer of the laminate taught in Park. The motivation for doing so would have been because said terpolymer is extrudable, forms high quality adhesive films with uniform melt flow, and copolymer content and is taught to heat seal to various substrates.

6. Claims 1, 5, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gregory (US 4,941,935) in view of DE 26-17411 (herein referred to as Pflieger).

Gregory teaches a laminate comprising a co-extruded film comprising a layer of polypropylene film and a layer of olefin terpolymer adjacent to said polypropylene film. Preferably, the polypropylene film comprises isotactic polypropylene (col 3, lines 61+). The olefin terpolymer comprises ethylene, unsaturated carboxylic acid, and unsaturated ester (abstract). The amount of carboxylic acid in the terpolymer is at least 3 percent and the amount of ester in the terpolymer is at least 3 percent (abstract). After the terpolymer is corona treated (col 4, lines 35+), it is used to adhere the laminate to an aluminum foil (herein understood to read on the claimed metal layer of claim 12).

Gregory does not teach that the olefin terpolymer should comprise the claimed terpolymer. However, Pflieger teaches a terpolymer adhesive that adheres to various substrates (page 3, fourth paragraph of the translation). The terpolymer comprises more than 60wt% ethylene, 1-10wt% acrylic acid and/or methacrylic acid, and 1-20wt% t-butyl acrylate and/or t-butyl methacrylate (page 3, fourth paragraph of the translation). The claimed films have uniform melt flow and copolymer content (page 2, third

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paragraph of the translation) and form good quality films (page 4, third full paragraph of the translation) when extruded (see examples). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the terpolymer adhesive taught in Pfleger as the adherent layer of the laminate taught in Gregory. The motivation for doing so would have been because said terpolymer is extrudable, forms high quality adhesive films with uniform melt flow and copolymer content, and is taught to heat seal to various substrates.

7. Claims 2, and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gregory (US 4,941,935) in view of DE 26-17411 (herein referred to as Pfleger), as applied to claims 1, 5, 11, and 12 above, and further in view of Howden et al (US 4,357,383).

Gregory in view of Pfleger is relied upon as above, but does not teach that the film should be biaxially oriented prior to depositing the aluminum foil thereto. However, Howden teaches a film comprising a substrate having on at least one surface thereof an adherent layer (abstract), wherein a metallized film is applied to the adherent layer (abstract). The substrate is preferably crystalline polypropylene (col 1, lines 38+). Howden teaches that the substrate and the adherent layer (herein understood to be analogous to the terpolymer layer taught in Gregory) should be co extruded (col 2, lines 42+) and then uniaxially or biaxially oriented (col 2, lines 61+) in order to improve the film's tensile properties (col 3, lines 13+). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to uniaxially or biaxially orient



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the film taught by Gregory in view of Pfleger. The motivation for doing so would have been to improve the film's tensile properties.

8. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gregory (US 4,941,935) in view of DE 26-17411 (herein referred to as Pfleger), as applied to claims 1, 5, 11, and 12 above, and further in view of Crass et al (US 4,786,533).

Gregory in view of Pfleger is relied upon as above, but does not teach that the polypropylene layer should comprise a hydrocarbon resin. However, Crass teaches that the addition of hydrocarbon resin to an isotactic polypropylene affects the polypropylene's modulus of elasticity (col 3, lines 19+). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add hydrocarbon resin to the isotactic polypropylene taught in Gregory. The motivation for doing so would have been to affect the film's modulus of elasticity.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-6 and 9-12 have been considered but are moot in view of the new ground(s) of rejection.

The rejection of claims 1-13 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention has been overcome by amendment. Specifically, Applicant deleted the claimed molecular weight.

The rejection of Claims 1, 6-8, 11, and 12 under 35 U.S.C. 102(e) as being anticipated by Morris et al (US 6,500,556) has been overcome by amendment.

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Specifically, Applicant has "closed" the claim language with regard to the claimed skin layer to exclude blends such as those taught in Morris.

The rejection of claims 1-3 and 7-12 under 35 U.S.C. 103(a) as being unpatentable over Howden et al (US 4,357,383) in view of Morris et al (US 6,500,556) has been overcome by amendment. Specifically, Applicant has "closed" the claim language with regard to the claimed skin layer to exclude blends such as those taught in Morris.

The rejection of claims 1-3, 5, and 7-12 under 35 U.S.C. 103(a) as being unpatentable over Reid (US 4,604,322) in view of Morris et al (US 6,500,556) has been overcome by amendment. Specifically, Applicant has "closed" the claim language with regard to the claimed skin layer to exclude blends such as those taught in Morris.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin R Kruer whose telephone number is 571-272-1510. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau can be reached on 571-272-1516. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'K-R-K'.

Kevin R. Kruer  
Patent Examiner-Art Unit 1773